What is claimed is:

1. An enhanced nanocomposite comprising of:

   a powder having a surface modified nanoscale layer selected from the group consisting of metals, metal oxides, organometallics, semiconductors, alloys, carbon products, and combinations thereof, the powder having an average particle size of from about 1 nanometer to about 1 micron, a nanoscale layer having an average thickness of from about 1 nanometer to about 100 nanometers; and

   a conductive medium selected from the group of monomers, polymers, organometallics, and combinations thereof.

2. The conductive medium according to claim 1, wherein the medium is a nanocomposite having an average particle size of from about 1 nanometer to about 1 micron.

3. The conductive medium according to claim 2, wherein the medium is functionalized with a nanoscale layer having an average thickness of from about 1 nanometer to about 100 nanometers.

4. The nanocomposite matrixes are made from composition comprised of nanocomposite according to claim 1.

5. The nanocomposite matrixes according to claim 4, wherein the matrixes are subjected to a phonon or electron bias as induced by externally generated fields.

6. The externally generated fields according to claim 5, wherein field is selected from the group of ultrasonic, acoustic phonon, magnetic, electromagnetic, and electrical fields.

7. The nanocomposite matrixes according to claim 4, wherein the matrix is comprised of alternating layers of nanocomposite doped with conductive additives, and nanocomposite doped with semiconductor additives.

8. The alternating layers according to claim 7, wherein the layer thickness is less than 100 nanometers.

9. The alternating layers according to claim 7, wherein the layer thickness is less than 10 nanometers.

10. The functionalized powders according to claim 3 are functionalized for at least one purpose selected from the group promoting dispersion, enhancing corrosion resistance, reducing friction, enhancing chemical stability, enhancing molecular polarity, modifying hydrophobic or hydrophilic characteristics, enhancing solubility, providing stability against thermal and ultraviolet degradation, enhancing lubricity, improving mold release, varying color, incorporating nucleating agents, enhancing plasticity, or enhancing means to make emulsions.

11. The powder having a surface modified nanoscale layer according to claim 1 is functionalized for at least one purpose selected from the group promoting dispersion, enhancing corrosion resistance, reducing friction, enhancing chemical stability, enhancing molecular polarity, modifying hydrophobic or hydrophilic characteristics, enhancing solubility, providing stability against thermal and ultraviolet degradation, enhancing lubricity, improving mold release, varying color, incorporating nucleating agents, enhancing plasticity, or enhancing means to make emulsions.

12. The nanocomposite according to claim 1 is further comprised of surfactant wherein the interfacial tension of the powders is reduced.

13. The nanocomposite according to claim 1 is further comprised of quantum dots wherein the flow of electrons is further enhanced by reducing the mean path length between said powders according to claim 1.

14. The powders selected from group consisting of metals, metal oxides, alloys, and combinations thereof according to claim 1 is further subjected to microetching process wherein the surface topography is modified with nanoscale dendritic features.

15. The nanocomposite according to claim 1, wherein the carbon products, monomers, polymers, organometallics, metals, metal oxides, and semiconductors are chemically modified by non-thermal means.

16. The non-thermal means according to claim 15 is selected from the group of microwave and electron beam.

17. The non-thermal means according to claim 15 is subjected to a phonon or electron bias as induced by externally generated fields.

18. The externally generated fields according to claim 17, wherein the field is selected from ultrasonic, acoustic phonon, magnetic, electromagnetic, and electrical fields.

19. Products are made from nanocomposite matrixes according to claim 4.

20. The products according to claim 19 are further subjected to a phonon or electron bias as induced by externally generated fields.

21. The externally generated fields according to claim 20, wherein field is selected from the group of ultrasonic, acoustic phonon, magnetic, electromagnetic, and electrical fields.

22. The externally generated fields according to claim 21 produces byproducts selected from the group of conductive polymers, nanotubes, nanohorns, and fullerenes.

23. The products according to claim 19 wherein said product is further selected from the group of energy conversion products selected from the group of thermionics, thermoelectric, photovoltaic, fuel cell, piezoelectrics, photoelectrics, ballistic tunneling, thermal diodes; and photon, electron, and photon emitters.